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SUPPLEMENT

TO

# JOINT EVALUATION OF SOVIET MISSILE THREAT IN CUBA

PREPARED BY

Guided Missile and Astronautics Intelligence Committee  
Joint Atomic Energy Intelligence Committee  
National Photographic Interpretation Center

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0200 HOURS

2 NOVEMBER 1962

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## NOTICE

This report is based primarily on preliminary analysis of low-level photography made on [REDACTED]

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## SUMMARY

1. We conclude that the Soviets are abandoning the known MRBM and IRBM sites in Cuba. (See Figures 4, 5 and 6.)

2. All of the known MRBM sites are now being or have been dismantled. The missiles, basic launching equipment, and camouflage have been removed. The launch sites have been partially destroyed, apparently by bulldozing.

3. The present location of the removed equipment and missiles is unknown. Because we have not had high altitude survey coverage since [REDACTED] [REDACTED] we cannot exclude the existence of alternate redeployment sites.

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4. Construction activity at the IRBM sites has stopped and the installations at Guanajay partially destroyed.

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6. None of the Soviet cargo ships now in Cuba are capable of carrying IRBMs or MRBMs internally. The seven suspect missile carriers could return to Cuba between 16 and 25 November. Loading of missiles could take as much as a week.

7. There has been further progress in the assembly of IL-28 bomber aircraft at San Julian airfield since the last photographic coverage on [REDACTED]  
[REDACTED]

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8. Potential command and control communication links have been identified for the Soviet rocket forces in Cuba. High frequency radio links between Moscow and Havana, which went over to scrambler operations on 28 October 1962, and microwave links to the former launch sites were probably intended to provide this control.

9. It is now possible to trace the development of the Soviet air defense system in Cuba indicating that an integrated, fully operational capability was achieved on 27 October.

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## DISCUSSION

### OFFENSIVE MISSILE READINESS

#### San Cristobal MRBM Area

1. Site 1 (22-40-05N 83-17-50W)

Last coverage: Low-level [REDACTED]

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a. Readiness Status

This site is no longer operational.

b. Supporting Evidence

All four launch positions are empty. The configuration of these positions has been altered; they are either covered or broken up. One launch stand is apparently being crated next to the position. Six missile-ready tents are still up. There are nine oxidizer trailers parked outside of the security fence and one parked inside. Four fuel trailers have not changed position since the last coverage. The AAA position at this site is unoccupied.

c. Significant Trends

The movement of missiles and direct support equipment since

[REDACTED] indicates that this site is no longer operational.

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2. Site 2 (22-41-00N 83-15-00W)

Last coverage: Low-level [REDACTED]

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a. Readiness Status

This site no longer has an operational capability.

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## b. Supporting Evidence

The missile transporters, erectors and launch stands have been moved and are no longer visible at the site. The following missile support equipment has also been moved: fuel trailers, electronic vans, theodolite stations, generators and cables. It appears that camouflage has been removed. Three oxidizer trailers are parked in the same position as when previously seen and a few general purpose vehicles are observed in the area. Of the five missile-ready tents erected at this site, the positions of two of them were observed on this mission. One of these two had been removed while the other was still present. The two AAA positions at this site are occupied.

## c. Significant Trends

The movement of missiles and support equipment from this MRBM site since the date of last coverage [REDACTED] indicates that it no longer has an operational capability.

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3. Site 3 (22-42-40N 83-08-25W)

Last coverage: Low-level [REDACTED]

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## a. Readiness Status

This site probably does not have an operational capability.

## b. Supporting Evidence

Only one launch position was observed on this mission and it appears to be completely abandoned.

## c. Significant Trends

The movement of missiles and missile support equipment from one position of this site indicates that, in all probability, the entire site no longer has an operational capability.

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4. Site 4 (22-46-55N 82-58-50W) (See Figure 4.)

Last coverage: Low-level [REDACTED]

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## a. Readiness Status

This site no longer has an operational capability.

## b. Supporting Evidence

The missile transporters, erectors and launch stands at the two positions observed have been moved and are no longer visible. The following missile support equipment has also been removed: propellant trailers, theodolite stations, electronic vans, generators and cables. It appears that all camouflage has been removed. One missile-ready tent is gone and three others are either masked by trees or have been removed. There are a large number of miscellaneous vehicles scattered around the area and eight trucks loaded with wood forms are leaving the area in convoy. The tent area is essentially unchanged. The AAA position at this site is occupied.

## c. Significant Trends

The movement of missiles and support equipment from the visible positions of this site indicates that in all probability this MRBM site no longer has an operational capability.

Sagua La Grande MRBM Area5. Site 1 (22-43-44N 80-01-40W) (See Figure 5.)

Last coverage: Low-level [REDACTED]

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## a. Readiness Status

This site no longer has an operational capability.

## b. Supporting Evidence

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The erectors, launch stands and cabling are no longer in the area. The launch pad configuration has been obliterated. There is no change in the tent area and the support area remains unchanged. Two missile-ready tents are still up and many vehicles are parked in the open in the support area. There are four cranes in the support area. There is no evidence of camouflage; thirteen oxidizer trailers and eight fuel trailers are parked in the open. There is no change in the nuclear weapons storage bunker which has been under construction since [REDACTED]. There is new fencing at the south end of the site and also new fencing across the road between the support area and launch area.

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#### c. Significant Trends

The movement of missiles and direct support equipment indicates that this site is no longer operational.

#### 6. Site 2 (22-39-10N 79-51-55W)

Last coverage: Low-level [REDACTED]

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#### a. Readiness Status

This site no longer has an operational capability.

#### b. Supporting Evidence

The erector and launch stand on the one position seen at this site have been moved and are no longer visible. However, one missile-ready tent remains and fourteen oxidizer and seven fuel trailers are parked in the open. Camouflage has been removed and the cabling at the position is no longer visible. A large number of miscellaneous vehicles are scattered throughout the area.

#### c. Significant Trends

The movement of the erector, launch stand and cabling from the position seen indicates that this site is being evacuated and in all prob-

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ability no longer has an operational capability.

### Guanajay IRBM Area

#### 7. Site 1 (22-57-00N 82-39-25W) (See Figure 6.)

Last coverage: Low-level [REDACTED]

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##### a. Readiness Status

This IRBM site was being evacuated, and has no operational capability.

##### b. Supporting Evidence

The foundations for the launch stands and some of the pre-cast concrete conduit appears to have been torn up and the equipment removed. There are trucks, prime movers, trailers, and powered heavy construction equipment visible in a support area about one mile south of the site. Other heavy construction equipment is assembled in an open storage area. Tents, which had been erected near the site, were gone at the time of this mission.

##### c. Significant Trends

This IRBM site, under active construction through at least [REDACTED] is being deactivated with the removal of missile ground support equipment. Some destruction of concrete work was in evidence.

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#### 8. Site 2 (22-57-25N 82-36-55W)

Last coverage: Low-level [REDACTED]

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##### a. Readiness Status

This IRBM site has no operational capability as it is incomplete and construction activity has ceased.

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b. Supporting Evidence

There has been no apparent construction progress on this IRBM site since it was last observed [REDACTED] Between this site and Site 1 approximately sixty trucks are assembled, aligned in three rows.

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c. Significant Trends

Construction has been stopped on this IRBM site and all construction equipment and vehicles have been assembled in one area.

Remedios IRBM Area

9. Site 1 (22-25-00N 79-35-00W)

Last coverage: Low-level [REDACTED]

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a. Readiness Status

This IRBM site has no operational capability.

b. Supporting Evidence

No construction progress has been made on this site which was in an early stage of construction [REDACTED] Construction activity appears to have ceased.

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c. Significant Trends

No vehicles, personnel, or other signs of activity are visible at this site.

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## COMMAND AND CONTROL

11. No specific link has been definitely identified as the Command Link between Moscow and the sites deployed in Cuba, however, there are ample communications facilities which could be utilized. Those links between the USSR and Cuba which could serve are:

- a. ILC (Morse)
- b. ILCS (Radiotelephone)
- c. KGB direct (Morse)
- d. KGB relayed thru Conakry (Morse)
- e. KGB relayed thru Bamako (Morse)
- f. VLF Broadcast (KUDMA) from Moscow (Morse)
- g. HF Broadcast (Suspect Rocket Forces) from Moscow (Morse)
- h. "Link A" Moscow to Havana (Morse and Scrambler)
- i. "Link B" USSR to Cuba (Morse and Scrambler)

12. Of the above, "a" through "e" are not considered suitable for command purposes because of relatively slow transmission speed and low data handling capability. The two broadcasts, "f" and "g", are one-way only and would require another link to pass traffic back to Moscow.

13. The two links, "h" and "i", are considered the most likely ones for command communications. These links first appeared on [REDACTED] passing Morse traffic. They began scrambler operations on [REDACTED] by which date all MRBM sites were believed to have become operational. Scrambler provides the volume, speed and security believed necessary for missile command and control.

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14. Within Cuba, microwave towers have been located in low-level photography at the following MRBM and IRBM sites:

- a. San Cristobal Site 1
- b. San Cristobal Site 3
- c. Guanajay Site 1

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- d. Sagua La Grande Site 2
- e. Remedios

15. The orientation of these antennas suggests that they link the launch sites with a location in the Havana area. None of these antennas is a part of the Cuban National VHF/UHF Network.

16. The existence of an alternate means of communications between the Havana area and these sites is suggested by the large number of MF/HF communications vans observed at the sites.

17. It appears that direct radio links from Moscow to Havana provide communications between Headquarters, Strategic Rocket Forces in Moscow and the Division Headquarters in Havana. The microwave circuits between Havana and the sites probably link Division Headquarters with each of the Regimental Headquarters.

#### SUPPLY AND LOGISTICS

18. The time necessary for final implementation of an order to remove Soviet offensive missile systems will be governed by the availability of Soviet ships suitable for return transport of the ballistic missile units. We believe three weeks would be the minimum time required for the proper Soviet ships to reach Cuba and load missile cargoes. It is more likely that at least four weeks would be required to accomplish this.

19. Seven Soviet ships capable of carrying MRBMs/IRBMs have been identified among the ships carrying military equipment to Cuba. We do not know the number of missiles carried on each trip by any given ship and cannot be certain when any ship did or did not carry missiles. However, we believe that no less than five and possibly as many as eight voyages by these Soviet ships were necessary to deliver the MRBMs observed.

20. None of the suspect missile carriers are now near Cuba, nor are any of the Soviet cargo ships now in Cuba capable of carrying IRBMs or

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MRBMs internally. Several of suspect carriers only recently arrived back in Soviet ports and the rest probably will be in by the end of the week. All seven possible missile carriers could be en route back to Cuba in ballast by the beginning of next week--around 4/5 November. Several could have started by now, but thus far we have no evidence that any of them are under way. Once under way, the trip back to Cuba would take about two weeks, putting them in Cuban ports between 16 and 25 November. Loading of missiles and missile equipment could take another week.

## COASTAL DEFENSE

No change

## AIR DEFENSE MISSILES

21. The surface-to-air missile sites (SA-2) at San Julian and Santa Lucia were photographed from low-level on [REDACTED] The FRUITSET radar and missiles on launchers were canvas covered at San Julian. At the Santa Lucia site, the FRUITSET radar was uncovered but the missiles were canvas covered and turned parallel to the drive-through road. Both sites showed evidence of heavy rain. The cables from the guidance radar to the launchers are raised on supports above ground. There was no apparent tracking of the reconnaissance aircraft by either site.

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22. The development of the Soviet air defense system in Cuba is traced in the following paragraphs:

a. Early May - [REDACTED]

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Beginning as early as May 1962, the Cuba Revolutionary Air Force (CRAF) was expanded and, with the introduction of Mig 15, Mig 17, Mig 19, and later Mig 21 aircraft had a greatly increased capability. Fighters were

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noted in various training exercises including GCI practice, night flying, drag chute landing, aerial gunnery exercises, etc. Soviet influence was apparent through the use of Russian voice on observed communications. The Soviets at this time were apparently acting as instructors.

These aircraft were deployed at the CRAF headquarters at San Antonio de Los Banos, Santa Clara, and Camaguey. The latter two field maintained HF communications with CRAF headquarters.

The mission of the CRAF, prior to September, was primarily ground support with contributory air defense responsibility.

In mid-September the first ELINT intercept of SPOONREST radars were noted. The bearings were compatible with the Mariel and Bahia Honda SAM site. However, no communications were isolated which could be equated to these SAM sites.

b. [REDACTED]

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## TACTICAL MISSILES

No change

## BOMBERS

23. Photography of San Julian Airfield on [REDACTED] had revealed 21 crated IL-28's and six partially assembled IL-28's, of which two were almost completed. The crates were lined up along a parking apron. On [REDACTED] [REDACTED] the 21 crated fuselages, with wing and empennage crates, had been dispersed to individual hardstands. Of the seven partially assembled bombers, two are apparently operational, and one was taxiing at the time of coverage. One of the incomplete aircraft is the trainer version (MAS-COT). Mechanics are at work on the aircraft.

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We cannot yet determine whether disassembly of the bombers has begun.

One of the two batteries of six twin-mount 30 mm AAA covered on [REDACTED] [REDACTED] photography was covered again. It is still manned.

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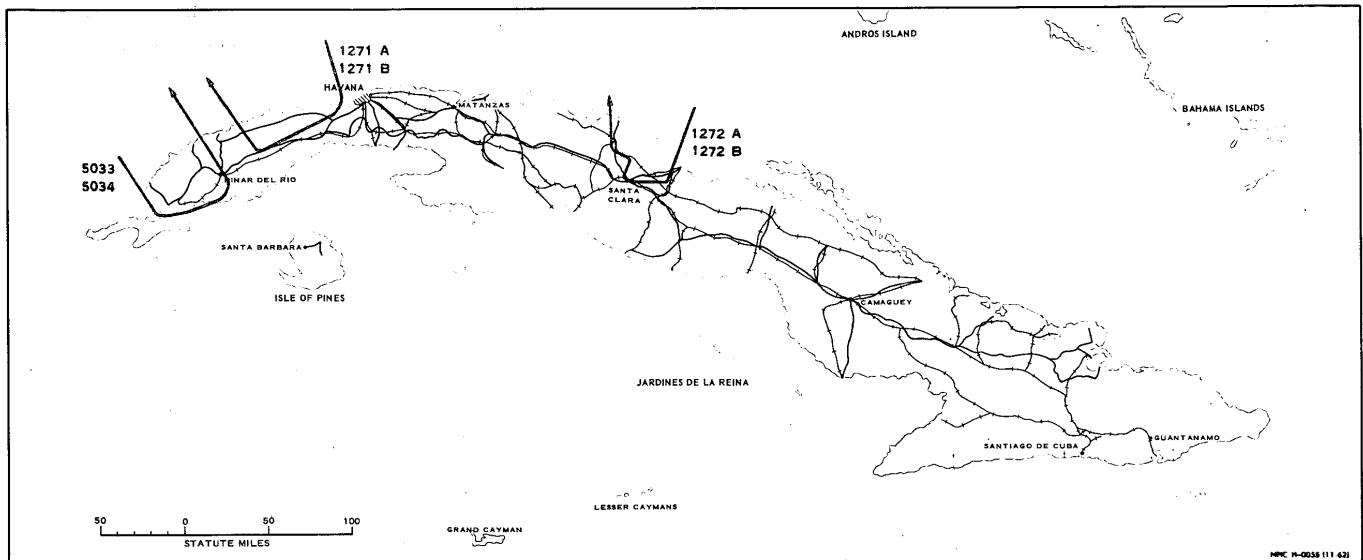


FIGURE 2. APPROXIMATE TRACK OF

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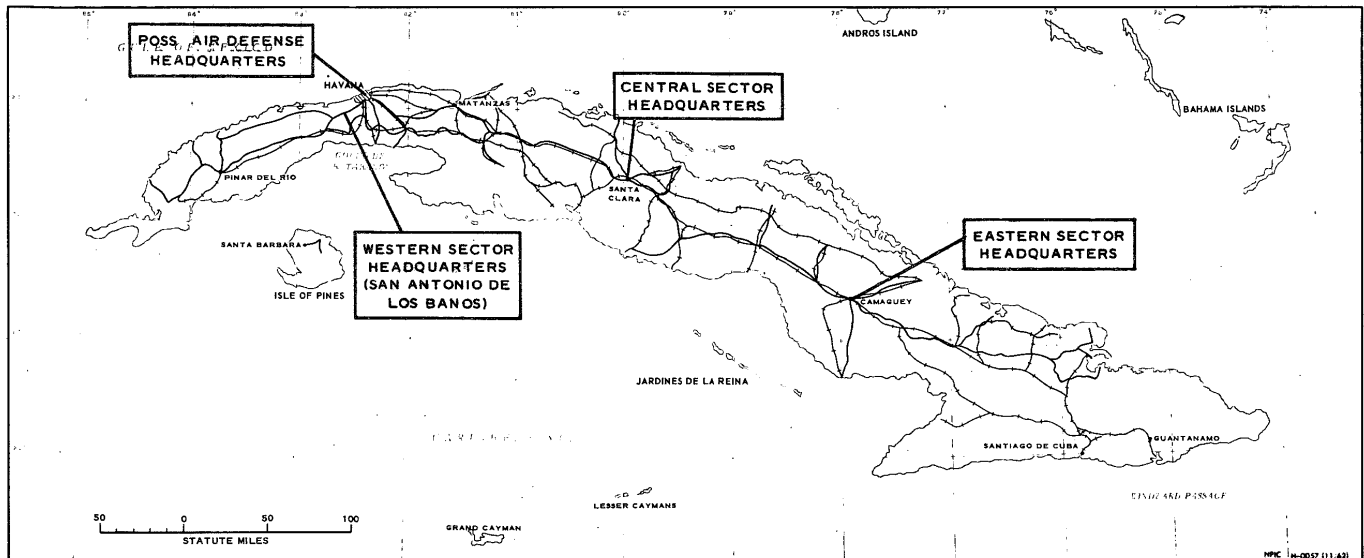


FIGURE 3. CUBAN AIR DEFENSE STRUCTURE

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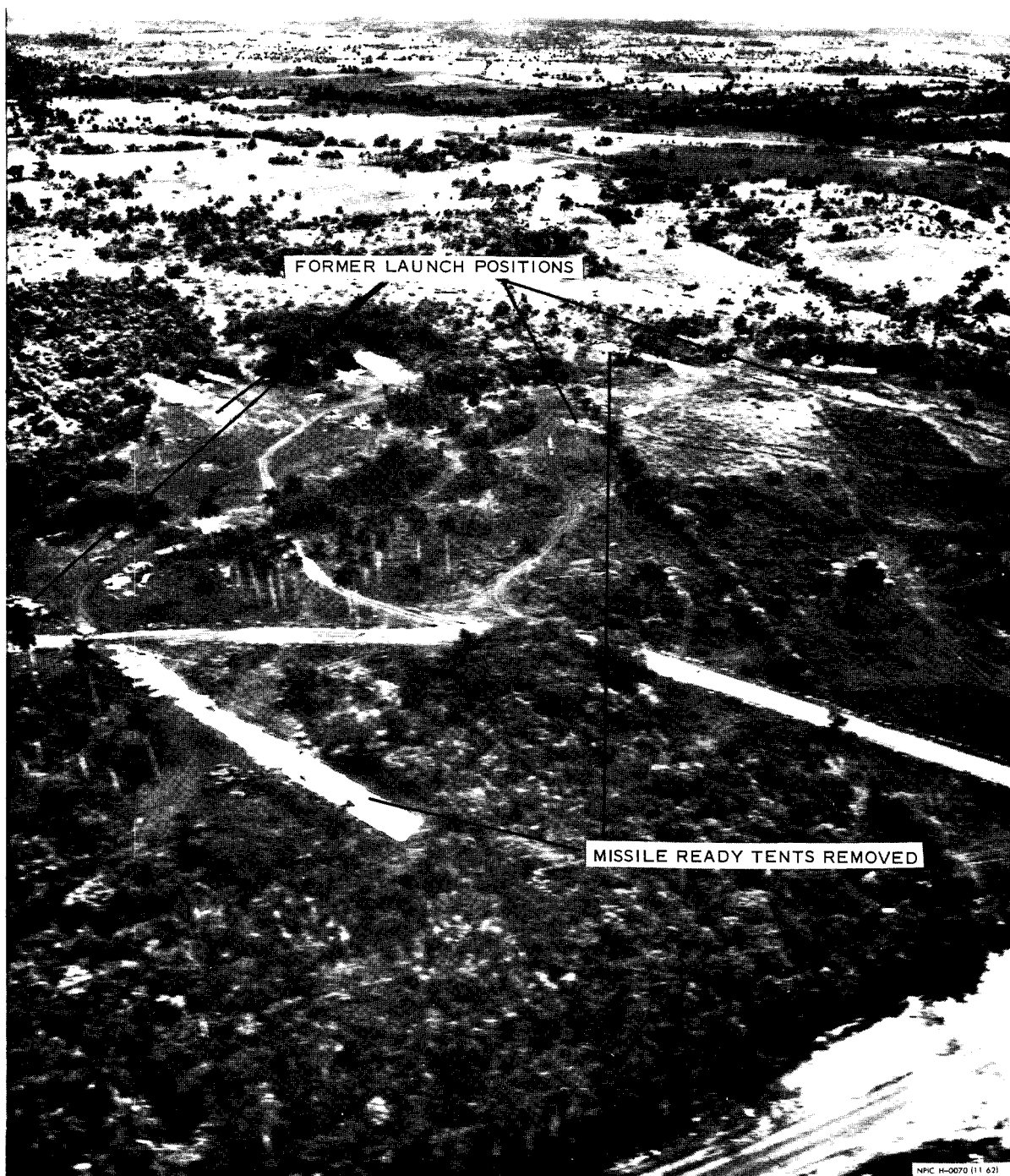


FIGURE 4. SAN CRISTOBAL MRBM SITE 4,

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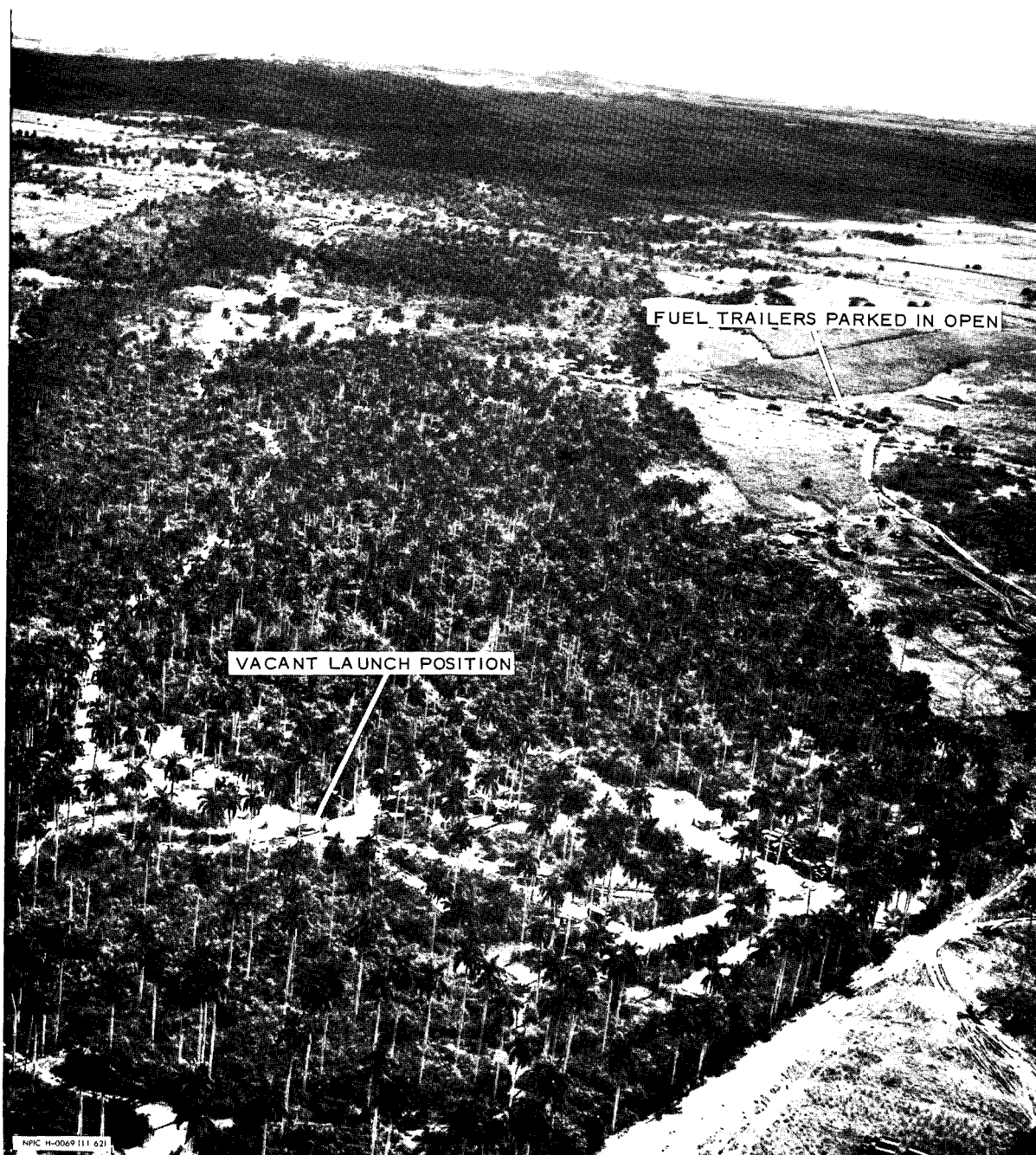


FIGURE 5. SAGUA LA GRANDE MRBM SITE 1,

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FIGURE 6. GUANAJAY IRBM SITE 1.

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